

What is claimed is:

1. A computer-implemented method for generating a transformation document, comprising:

analyzing a first document;

5 analyzing a second document; and

automatically generating, based upon said first and second documents, a transformation document which, when processed in conjunction with said first document, gives rise to a result document that is at least an approximation of said second document.

10 2. The method of claim 1, wherein said first and second documents are XML (eXtensible Markup Language) documents.

3. The method of claim 2, wherein said transformation document is an XSLT (eXtensible Stylesheet Language Transformation) document.

15 4. The method of claim 1, wherein automatically generating said transformation document comprises:

selecting a particular data structure pattern that occurs in said second document;

determining whether said first document comprises a matching data structure

20 pattern that matches said particular data structure pattern; and

in response to a determination that said first document comprises said matching data structure pattern, inserting a template comprising one or more actions into said transformation document, said template being invoked when a particular triggering data

structure pattern is encountered during processing of said transformation document, and when invoked, causes said particular data structure pattern to be created in said result document.

5           5.       The method of claim 4, wherein said particular triggering data structure pattern comprises said matching data structure pattern.

6.       The method of claim 4, wherein automatically generating said transformation document further comprises:

10           in response to a determination that said first document does not comprise said matching data structure pattern, inserting a non-match template comprising one or more actions into said transformation document, said non-match template being invoked when a special triggering data structure pattern is encountered during processing of said transformation document, and when invoked, causes said particular data structure pattern  
15       to be created in said result document.

7.       The method of claim 6, wherein said special triggering data structure pattern comprises an indication that a triggering data structure pattern needs to be specified for said non-match template.

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8.       The method of claim 4, wherein automatically generating said transformation document comprises:

selecting a non-matching data structure pattern that occurs in said first document that does not match any data structure pattern that occurs in said second document; and

inserting an action-needed template into said transformation document, said action-needed template being invoked when said non-matching data structure pattern is encountered during processing of said transformation document, said action-needed template comprising an indication that one or more actions needs to be specified for said action-needed template.

9. The method of claim 1, wherein automatically generating said transformation document comprises:

selecting a particular data structure pattern that occurs in said second document; determining a synonymous data structure pattern that is synonymous with said particular data structure pattern;

determining whether said first document comprises a matching data structure pattern that matches said synonymous data structure pattern; and

in response to a determination that said first document comprises said matching data structure pattern, inserting a template comprising one or more actions into said transformation document, said template being invoked when a particular triggering data structure pattern is encountered during processing of said transformation document, and when invoked, causes said particular data structure pattern to be created in said result document.

10. The method of claim 9, wherein said particular triggering data structure pattern comprises said matching data structure pattern.

11. The method of claim 9, wherein determining said synonymous data structure pattern comprises:

accessing a set of information that indicates that said particular data structure pattern is synonymous with said synonymous data structure pattern.

12. The method of claim 11, wherein said set of information is provided by a user.

13. The method of claim 1, wherein automatically generating said transformation document comprises:

determining whether any data structure pattern occurring in said first document is identical to a data structure pattern occurring in said second document; and

in response to a determination that a particular data structure pattern occurring in said first document is identical to a data structure pattern occurring in said second document, inserting a template into said transformation document, said template comprising a copy action, said template being invoked when said particular data structure pattern is encountered during processing of said transformation document, and when invoked, causes said particular data structure pattern to be copied into said result document.

14. The method of claim 1,

wherein analyzing said first document comprises:

compiling a first list of data structure patterns that occur in said first document; and

5 wherein analyzing said second document comprises:

compiling a second list of data structure patterns that occur in said second document.

15. The method of claim 1, further comprising:

10 processing said transformation document in conjunction with a third document to derive a transformed document, wherein said third document is a different document from said first document.

16. The method of claim 15, wherein said first document is of a particular  
15 type, and wherein said third document is of the same particular type.

17. A computer readable medium comprising instructions which, when executed by one or more processors, cause the one or more processors to generate a transformation document, said computer readable medium comprising:

20 instructions for causing one or more processors to analyze a first document;  
instructions for causing one or more processors to analyze a second document;  
and

instructions for causing one or more processors to automatically generate, based upon said first and second documents, a transformation document which, when processed in conjunction with said first document, gives rise to a result document that is at least an approximation of said second document.

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18. The computer readable medium of claim 17, wherein said first and second documents are XML (eXtensible Markup Language) documents.

19. The computer readable medium of claim 18, wherein said transformation document is an XSLT (eXtensible Stylesheet Language Transformation) document.

20. The computer readable medium of claim 17, wherein the instructions for causing one or more processors to automatically generate said transformation document comprises:

instructions for causing one or more processors to select a particular data structure pattern that occurs in said second document;

instructions for causing one or more processors to determine whether said first document comprises a matching data structure pattern that matches said particular data structure pattern; and

instructions for causing one or more processors to insert, in response to a determination that said first document comprises said matching data structure pattern, a template comprising one or more actions into said transformation document, said template being invoked when a particular triggering data structure pattern is encountered

during processing of said transformation document, and when invoked, causes said particular data structure pattern to be created in said result document.

21. The computer readable medium of claim 20, wherein said particular  
5 triggering data structure pattern comprises said matching data structure pattern.

22. The computer readable medium of claim 20, wherein the instructions for causing one or more processors to automatically generate said transformation document further comprises:

10 instructions for causing one or more processors to insert, in response to a determination that said first document does not comprise said matching data structure pattern, a non-match template comprising one or more actions into said transformation document, said non-match template being invoked when a special triggering data structure pattern is encountered during processing of said transformation document, and  
15 when invoked, causes said particular data structure pattern to be created in said result document.

23. The computer readable medium of claim 22, wherein said special  
triggering data structure pattern comprises an indication that a triggering data structure  
20 pattern needs to be specified for said non-match template.

24. The computer readable medium of claim 20, wherein the instructions for causing one or more processors to automatically generate said transformation document comprises:

instructions for causing one or more processors to select a non-matching data

5 structure pattern that occurs in said first document that does not match any data structure pattern that occurs in said second document; and

instructions for causing one or more processors to insert an action-needed

template into said transformation document, said action-needed template being invoked

when said non-matching data structure pattern is encountered during processing of said

10 transformation document, said action-needed template comprising an indication that one or more actions needs to be specified for said action-needed template.

25. The computer readable medium of claim 17, wherein the instructions for causing one or more processors to automatically generate said transformation document comprises:

instructions for causing one or more processors to select a particular data structure pattern that occurs in said second document;

instructions for causing one or more processors to determine a synonymous data structure pattern that is synonymous with said particular data structure pattern;

20 instructions for causing one or more processors to determine whether said first document comprises a matching data structure pattern that matches said synonymous data structure pattern; and



instructions for causing one or more processors to insert, in response to a determination that said first document comprises said matching data structure pattern, a template comprising one or more actions into said transformation document, said template being invoked when a particular triggering data structure pattern is encountered during processing of said transformation document, and when invoked, causes said particular data structure pattern to be created in said result document.

26. The computer readable medium of claim 25, wherein said particular triggering data structure pattern comprises said matching data structure pattern.

27. The computer readable medium of claim 25, wherein the instructions for causing one or more processors to determine said synonymous data structure pattern comprises:

instructions for causing one or more processors to access a set of information that indicates that said particular data structure pattern is synonymous with said synonymous data structure pattern.

28. The computer readable medium of claim 27, wherein said set of information is provided by a user.

29. The computer readable medium of claim 17, wherein the instructions for causing one or more processors to automatically generate said transformation document comprises:

instructions for causing one or more processors to determine whether any data structure pattern occurring in said first document is identical to a data structure pattern occurring in said second document; and

instructions for causing one or more processors to insert, in response to a  
 5 determination that a particular data structure pattern occurring in said first document is identical to a data structure pattern occurring in said second document, a template into said transformation document, said template comprising a copy action, said template being invoked when said particular data structure pattern is encountered during processing of said transformation document, and when invoked, causes said particular  
 10 data structure pattern to be copied into said result document.

30. The computer readable medium of claim 17,  
 wherein the instructions for causing one or more processors to analyze said first document comprises:

15 instructions for causing one or more processors to compile a first list of data structure patterns that occur in said first document; and

wherein the instructions for causing one or more processors to analyze said second document comprises:

20 instructions for causing one or more processors to compile a second list of data structure patterns that occur in said second document.

31. The computer readable medium of claim 17, further comprising:

instructions for causing one or more processors to process said transformation document in conjunction with a third document to derive a transformed document, wherein said third document is a different document from said first document.

- 5            32.     The computer readable medium of claim 31, wherein said first document is of a particular type, and wherein said third document is of the same particular type.